



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,737	08/25/2003	Arvind D. Patel	05542/073001	2299

26722 7590 10/29/2009
OSHA LIANG/MI
TWO HOUSTON CENTER
909 FANNIN STREET, SUITE 3500
HOUSTON, TX 77010

EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
----------	--------------

1796

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

10/29/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DOCKETING@OSHALIANG.COM
bergman@oshaliang.com

Office Action Summary	Application No. 10/647,737	Applicant(s) PATEL ET AL.	
	Examiner Michael J. Feely	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20091013</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 21-24 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 13, 2009 has been entered.

Response to Amendment

2. The rejection of claim 21 under 35 U.S.C. 103(a) as being unpatentable over Reddie et al. (US Pat. No. 2,994,660) in view of Van Slyke (US Pat. No. 6,017,854) has been overcome by amendment.

Response to Arguments

3. Applicant's arguments with respect to claim 21 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1796

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 22 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Thompson et al. (US 2004/0102332).

Regarding claims 22 and 23, Thompson et al. disclose: **(22)** a drilling fluid (Abstract) comprising:

(A) an oleaginous fluid (paragraphs 0069-0071), wherein the oleaginous fluid is the continuous phase of the drilling fluid (paragraphs 0069-0071) and wherein the oleaginous fluid

Art Unit: 1796

comprises from about 30% to about 95% by volume of the drilling fluid (paragraphs 0069-0071) and the oleaginous fluid of a material selected from the group consisting diesel oil, mineral oil, synthetic oil, esters, ethers, acetals, di-alkylcarbonates, olefins, and combinations thereof (paragraph 0072);

(B) a non-oleaginous fluid (paragraphs 0069-0071), wherein the non-oleaginous fluid is the discontinuous phase of the drilling fluid (paragraphs 0069-0071), wherein the non-oleaginous fluid comprising from about 1% to about 70% by volume of said drilling fluid (paragraphs 0069-0071) and the non-oleaginous fluid is selected from the group consisting of fresh water, sea water, a brine containing organic or inorganic dissolved salts, a liquid containing water-miscible organic compound, and combinations thereof (paragraphs 0074-0076);

(C) an organophillic clay (paragraph 0084), wherein the organophillic clay is present in a concentration of about 0.1% to about to about 6% by weight (paragraphs 0037, Tables 2-4);

(D) a primary emulsifier (paragraphs 0077-0082), wherein the primary emulsifier is in sufficient concentration to stabilize the invert emulsion (Table 1);

(E) a weighting agent (paragraph 0083), wherein the weighting agent or bridging agent is selected from the group consisting of galena, hematite, magnetite, iron oxides, illumenite, barite, siderite, selstite, dolomite, calcite and combinations thereof (paragraph 0083); and

(F) a rheology modifier (paragraphs 0043-0068; Example 1), wherein the rheology modifier is a polyamide resulting from condensation reaction between a C₁₂-C₂₂ fatty acid (paragraphs 0044-0050; Example 1) and a polyamine (paragraphs 0051-0054; Example 1); and

(23) wherein the polyamine is selected from the group consisting of diethylenetriamine, triethylenetetramine, and pentaethylenetetramine (paragraphs 0051-0054; Example 1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 22-24 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Clapper et al. (US Pat. No. 4,663,076).

Regarding claims 22-24, Clapper et al. disclose: **(22)** a drilling fluid (Abstract) comprising:

(A) an oleaginous fluid (column 9, lines 7-40), wherein the oleaginous fluid is the continuous phase of the drilling fluid (column 9, lines 7-40) and wherein the oleaginous fluid comprises from about 30% to about 95% by volume of the drilling fluid (column 9, lines 7-40) and the oleaginous fluid of a material selected from the group consisting diesel oil, mineral oil, synthetic oil, esters, ethers, acetals, di-alkylcarbonates, olefins, and combinations thereof (column 9, lines 7-40);

(B) a non-oleaginous fluid (column 9, lines 7-40), wherein the non-oleaginous fluid is the discontinuous phase of the drilling fluid (column 9, lines 7-40), wherein the non-oleaginous fluid comprising from about 1% to about 70% by volume of said drilling fluid (column 9, lines 7-40) and the non-oleaginous fluid is selected from the group consisting of fresh water, sea water, a brine containing organic or inorganic dissolved salts, a liquid containing water-miscible organic compound, and combinations thereof (column 9, lines 7-40);

Art Unit: 1796

(C) an organophillic clay (column 9, lines 32-40), wherein the organophillic clay is present in a concentration of about 0.1% to about 6% by weight (column 9, lines 32-40);

(D) a primary emulsifier (column 9, lines 41-47; column 3, line 30 through column 4, line 25), wherein the primary emulsifier is in sufficient concentration to stabilize the invert emulsion (column 9, lines 41-47);

(E) a weighting agent (column 9, lines 32-40), wherein the weighting agent or bridging agent is selected from the group consisting of galena, hematite, magnetite, iron oxides, illumenite, barite, siderite, selstite, dolomite, calcite and combinations thereof (column 9, lines 32-40); and

(F) a rheology modifier (column 9, lines 41-47; column 3, line 30 through column 4, line 25), wherein the rheology modifier is a polyamide resulting from condensation reaction between a C₁₂-C₂₂ fatty acid (column 4, lines 59-64; Examples) and a polyamine (column 3, line 54 through column 4, line 12);

(23) wherein the polyamine is selected from the group consisting of diethylenetriamine, triethylenetetramine, and pentaethylenetetramine (column 4, lines 46-53; Examples); and

(24) wherein one equivalent of the fatty acid is reacted for each equivalent of amine present in the polyamine (column 7, line 35 through column 8, line 3).

The diamide of Clapper et al. satisfies the limitations of both components (D) and (F) in the instant invention; hence, the claims are anticipated.

Alternatively, the claims are obviously satisfied by Clapper et al. when their diamide, corresponding to component (F), is optionally used in conjunction with other primary emulsifiers, corresponding to component (D) (*see column 3, lines 47-50*).

Art Unit: 1796

Therefore, if not anticipated, then the teachings of Clapper et al. obviously satisfy the instant invention because they contemplate the use of their diamide, corresponding to component (F), in conjunction with other primary emulsifiers, corresponding to component (D).

8. Claims 21-24 rejected under 35 U.S.C. 103(a) as being unpatentable over Coates et al. (US Pat. No. 4,941,983).

Regarding claims 21-24, Coates et al. disclose: **(21 & 22)** a drilling fluid (Abstract; column 2, lines 5-7) comprising:

(A) an oleaginous fluid (Example 1: column 8, lines 9-10; column 2, lines 8-15), wherein the oleaginous fluid is the continuous phase of the drilling fluid (Example 1: column 8, lines 9-10; column 2, lines 8-15) and wherein the oleaginous fluid comprises from about 30% to about 95% by volume of the drilling fluid (Example 1: column 8, lines 9-10; column 2, lines 8-15) and the oleaginous fluid of a material selected from the group consisting diesel oil, mineral oil, synthetic oil, esters, ethers, acetals, di-alkylcarbonates, olefins, and combinations thereof (column 6, lines 45-50);

(B) a non-oleaginous fluid (Example 1: column 8, lines 9-10; column 2, lines 8-15), wherein the non-oleaginous fluid is the discontinuous phase of the drilling fluid (Example 1: column 8, lines 9-10; column 2, lines 8-15), wherein the non-oleaginous fluid comprising from about 1% to about 70% by volume of said drilling fluid (Example 1: column 8, lines 9-10; column 2, lines 8-15) and the non-oleaginous fluid is selected from the group consisting of fresh water, sea water, a brine containing organic or inorganic dissolved salts, a liquid containing

Art Unit: 1796

water-miscible organic compound, and combinations thereof (Example 1: column 8, lines 9-10; column 2, lines 8-15);

(C) an organophillic clay (Example 1: column 8, line 10);

(E) a weighting agent (Example 1: column 8, line 11), wherein the weighting agent or bridging agent is selected from the group consisting of galena, hematite, magnetite, iron oxides, illumenite, barite, siderite, selstite, dolomite, calcite and combinations thereof (column 8, line 11);

(21) (D) a primary emulsifier selected from an amidoamine and/or an oleate ester (Example 1: column 7, line 49 through column 8, line 2; column 3, line 47 through column 4, line 12), wherein the primary emulsifier is in sufficient concentration to stabilize the invert emulsion (Example 1: column 7, line 49 through column 8, line 7); and

(F) a rheology modifier (Example 1: column 8, lines 3-7 & 17-22), wherein the rheology modifier is a mixture of C₁₂ to C₂₂ polycarboxylic fatty acids (Example 1: column 8, lines 3-7 & 17-22), including at least a dimer poly-carboxylic C₁₂ to C₂₂ fatty acid (Example 1: column 8, lines 3-7 & 17-22), and a trimer poly-carboxylic C₁₂ to C₁₂ fatty acid (Example 1: column 8, lines 3-7 & 17-22), wherein the mixture of polycarboxylic fatty acids is added in sufficient concentration so that the fatty acid concentration in the drilling fluid is greater than 0.1 pounds per barrel and is up to 5.0 pounds per barrel (Example 1: column 8, lines 3-7 & 17-22);

(22) (D) a primary emulsifier (column 2, lines 8-15; or Example 1: column 7, line 49 through column 8, line 2; column 3, line 47 through column 4, line 12), wherein the primary emulsifier is in sufficient concentration to stabilize the invert emulsion (column 2, lines 8-15; or Example 1: column 7, line 49 through column 8, line 7); and

Art Unit: 1796

(F) a rheology modifier (Example 1: column 7, line 49 through column 8, line 2; column 3, line 47 through column 4, line 12), wherein the rheology modifier is a polyamide resulting from condensation reaction between a C₁₂-C₂₂ fatty acid and a polyamine (Example 1: column 7, line 49 through column 8, line 2; column 3, line 47 through column 4, line 12); **(23)** wherein the polyamine is selected from the group consisting of diethylenetriamine, triethylenetetramine, and pentaethylenetetramine (Example 1: column 7, line 49 through column 8, line 2; column 3, line 47 through column 4, line 12); **(24)** wherein one equivalent of the fatty acid is reacted for each equivalent of amine present in the polyamine (Example 1: column 7, line 49 through column 8, line 2; column 3, line 47 through column 4, line 12).

Coates et al. discloses the use of organophilic clay as viscosifier/rheology modifier (*see Example 1*); however, they fail to explicitly disclose: **(21 & 22)** wherein the organophilic clay is present in a concentration of about 0.1% to about to about 6% by weight.

The label of viscosifier/rheology modifier establishes that the amount of organophilic clay in this type of composition is a result-effective variable, where a proper amount is required to modify viscosity, as desired. In light of this, it has been found that, “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation,” – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); and “A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation,” – *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Art Unit: 1796

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the amount of organophillic clay in the composition of Coates et al. because Coates et al. label the organophillic clay as a viscosifier/rheology modifier. This label establishes that the amount of organophillic clay in this type of composition is a result-effective variable, where a proper amount is required to modify viscosity, as desired.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 2004/0102332).

Regarding claim 24, the teachings of Thompson et al. are as set forth above and incorporated herein. They fail to explicitly disclose: **(24)** wherein one equivalent of the fatty acid is reacted for each equivalent of amine present in the polyamine.

Rather, they disclose a preferred molar ratio between the amine functional group and the carboxyl functional group of between 4:1 and 1:1. This range abuts the instantly claimed range. In light of this, it has been found that: a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) – *see MPEP 2144.05*.

Therefore, the teachings of Thompson et al. obviously satisfy the instantly claimed equivalent ratio because Thompson et al. disclose a preferred molar ratio that abuts the instantly claimed range. The skilled artisan would have expected amounts just above the 1:1 ratio of Thompson et al. to have the same properties as the instant invention.

Art Unit: 1796

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

October 23, 2009